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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/544,754	04/07/2000	Vijay R. Basani	020496/0004	2321

7590 09/24/2003

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EXAMINER

CHANG, JUNGWON

ART UNIT	PAPER NUMBER
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2154

DATE MAILED: 09/24/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/544,754

Applicant(s)

BASANI ET AL.

Examiner

Jungwon Chang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 14 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11 is/are allowed.
- 6) ☒ Claim(s) 1-10 and 12-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**FINAL ACTION**

1. Claims 1-20 are presented for examination.
2. The text of those sections of Title 35, U.S. Code not included in this office action can be found in a prior office action.
3. Amended claim 11 is allowed.
4. Claims 1-10 and 12-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Badovinat et al. (US 5,699,501) in view of Lim et al. (US 5,938,732).
5. As to claim 1, Badovinat et al. disclose the invention substantially as claimed, including a method for selecting a group leader among processing nodes (i.e. processors) in a multicast network segment (col. 1, lines 59-67) comprising the steps of:
  - configuring a set of said processing nodes (i.e. processors) to participate in electing a leader (col. 4, line 61 – col. 5, line 9);
  - determining when a new leader is needed (col. 5, lines 26-33); and
  - electing one processing node (i.e. processor) of said set to become said new leader (col. 5, lines 34-52).

Badovinat et al. do not specifically use a word server. However, Badovinat et al.

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disclose group of processing nodes (i.e. processors), wherein each processing node is coupled to the other processing nodes via an internal LAN connection (col. 3, lines 44-50), each processing node includes group services (200, 302, 304, fig. 3) for communicating between multiple processes of a process group (col. 4, lines 6-18 and 29-44; col. 5, lines 10-14). Moreover, Badovinat et al. disclose a name server (700, fig. 7) is one of the processing nodes (col. 6, lines 10-12) and the name server can be a processing node within the processor group (col. 6, lines 17-19). Lim et al. disclose a plurality of hosts (fig. 2A; col. 9, lines 13-20). It would have obvious to one of ordinary skill in the art at the time the invention was made to have named the processing node or host as a server because a server is known as a computer that has capable of supplying information or service to other computer over the network.

Badovinat et al. do not specifically disclose voting priority. However, Badovinat et al. disclose the priority is ordered in the sequence of processors joining the group (col. 5, lines 34-41 and 53-62; col. 13, lines 4-8). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include voting priority because it would improve the quality of service by placing tasks according to priorities and processing tasks having high priority.

6. As to claim 2, Badovinat et al. disclose calculating the corresponding voting priority according to the measurements (col. 5, lines 34-41 and 53-62).

7. As to claims 3 and 4, Badovintz et al. disclose configuring each processing node (i.e. processor) that is not currently the group leader to listen for periodic messages from said group leader (col. 5, lines 44-46). Badovintz et al. do not specifically disclose periodic message and periodic messages are multicast. However, Lim et al. disclose periodic message (i.e. heartbeat) and periodic messages are multicast (col. 3, lines 30-37; col. 6, lines 54-62; col. 8, lines 23-30). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings Badovintz et al. and Lim et al. because Lim et al's heartbeat would improve the reliability by allowing the server to monitor other servers periodically and detect the failure if no heartbeat signal is received within a timeout interval (Lim's reference, col. 8, lines 23-30).

8. As to claims 5 and 7, Badovintz et al. disclose multicasting (col. 6, lines 25-37; col. 7, lines 57-67).

9. As to claim 6, Badovintz et al. further disclose determining the new leader according to the processing node (i.e. processor) claimed leadership with the highest voting priority (col. 5, lines 49-62).

10. As to claim 8, it is rejected for the same reasons set forth in the rejection of claim 1. In addition, Badovintz et al. disclose a communication path from each participant to each other participant (col. 3, lines 37-40; col. 12, lines 57-60); a monitor process in

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each participant to determine which processing node (i.e. processor) is the current group leader (col. 5, lines 34-52; col. 6, lines 45-56).

11. As to claims 9, 10 and 12 are rejected for the same reasons set forth in claims 3 and 4.

12. As to claim 13, Badovinat et al. disclose the priority is ordered in the sequence of processors joining the group (col. 5, lines 34-41 and 53-62; col. 13, lines 4-8).

13. As to claim 14, Badovinat et al. disclose the invention substantially as claimed in claim 1. Badovinat et al. do not specifically use a word registration of members of a cluster. However, Badovinat et al. disclose a processor requests to become a member of a particular processor group (e.g., Processor Group X) when a process related to that group (e.g., Process X) requests to join a corresponding process group (e.g., Process Group X; col. 4, line 61 - col. 5, line 9); and multicasting a message directly to a selected group (col. 6, lines 25-37; col. 7, lines 57-67). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include registration of members because it allows only the authorized member of a specific group to access desired information and to receive notifications about changes or events that are occurred in that group.

14. As to claim 15, Badovinat et al. do not specifically disclose voting priority.

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However, Badovinat et al. disclose the priority is ordered in the sequence of processors joining the group (col. 5, lines 34-41 and 53-62; col. 13, lines 4-8). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include voting priority because it would improve the quality of service by placing tasks according to priorities and processing tasks having high priority.

15. As to claims 16 and 17 are rejected for the same reasons set forth in claims 3 and 4.

16. As to claims 18-20, Badovinat et al. disclose at least some identification information selected from the set of: a server's name, a server's port number, and a secret key (col. 13, lines 9-25).

17. Applicant's arguments filed 7/14/03 have been fully considered but they are not persuasive.

18. In the remarks, applicants argued in substance that:

(1) Badovinat discloses a recovery mechanism and does not disclose, teach or suggest electing a group leader by voting.

(2) Lim does not disclose, teach or suggest "a method for selecting a group leader among servers in a multicast network segment comprising the steps of: configuring a set of said servers to participate in electing a leader, each said server having a

corresponding voting priority; determining when a new leader is needed; and electing one server of said set to become said new leader”.

19. Examiner respectfully traverses applicants’ remark.

As to points (1) and (2), applicant’s assertion “electing a group leader by voting” cannot read in claim 1. Claim 1 is not clearly directed to point out how the voting priority works to elect the group leader. Based on claim language in claim 1, electing one server of said set to become said new leader” that does not support applicant’s argument.

Furthermore, Lim discloses hosts within a group (i.e., multicast) to elect one of the hosts to fill the role of “leader” of the group; and the host the lowest host id (i.e., priority) is denominated the leader (col. 6, lines 7-14).

20. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.




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21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jungwon Chang whose telephone number is (703)305-9669. The examiner can normally be reached on 8:30-6:00 (Monday-Friday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (703)308-9052. The fax phone numbers for the organization where this application or proceeding is assigned are (703)746-7239 for regular communications and (703)746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-9669.

Jungwon Chang  
September 19, 2003

  
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